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Supportative Material

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DOC	68	REV DATE	30/6/80	BY	35322
ORIG COMP	ASG	DPI	56	TYPE	30
ORIG CLASS	SECRET	PAGES	6	REV CLASS	C
JUST	20	NEXT REV	2010	AUTH	HR 732

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STEPWISE PROCEDURE AFTER ARRIVAL AT SITE

1. Unload generator, air pump, and unweighted sack. (Items 1, 8, and 9).
2. Fill sack with 15# weight, pump up generator, set in water for best filling (allow 50 to 55 minutes).
3. Carry remaining items to bank.
4. (a) Attend to uniform filling of generator.
(b) Set out balloon.
AFTER (1) generator is filled and tied off, and
(2) balloon is set out satisfactorily.
5. Add NaOH to generator - stir. (Dissolve NaOH in some water first).
6. Add 5 sacks of NaBH_4 . Allow 3-5 minutes between additions.
7. Take temperature of water.
8. Make up CoCl_2 solution.
Dissolve in 2-gal, then make up to 5 gal.
9. Check system.
 - a. Dipper - is NaBH_4 dissolved.
 - b. Potentiometer - 1 thermocouple is sufficient.
10. Flush system with N_2 .
11. Tie balloon to generator opening.
12. Add CoCl_2 solution.
13. Tie off neck of CoCl_2 entry tube.
14. Aid catalyst distribution.
15. Retire from immediate area.
16. After 15 minutes (or less) obtain additional temperature - time reading.
Reaction is complete 2-3 minutes after maximum temperature is reached.
17. Release hydrogen.

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9-13-57

pl's file - B. Nom.
Pentatec Engineering, Toronto

SHIP TO		CARGO NO.	REQUISITION NO.	DATE REQUIRED	DATE PACKED	DATE SHIPPED	VIA	METHOD OF SHIPMENT	RECEIVING VOUCHER NO.	PAGE 1 OF 1 PAGES				
SHIPPING DOCUMENT		1068-FVIF-58	TSS/913-27-1308-58		9-11-57	9-13-57		DOMESTIC						
SHIP TO		MATERIAL COST CODE	TYPE OF CARGO		CARRIER			RECAPITULATION						
SHIP TO		8-2502-10			RAILWAY EXPRESS AGENCY			TOTAL NO. OF CASES TOTAL WEIGHT TOTAL CUBE B/L NO. MISCELLANEOUS						
SHIP TO		PACKAGES SHOWN IN "TOTAL NO. CASES" HAVE BEEN RECEIVED IN APPARENT GOOD ORDER (Except as noted on the reverse side).			ARTICLES SHOWN IN COLUMN "QUANTITY RECEIVED" WERE RECEIVED IN APPARENT GOOD CONDITION.			TOTAL NO. OF CASES TOTAL WEIGHT TOTAL CUBE B/L NO. MISCELLANEOUS						
SHIP TO		DATE			SIGNATURE OF IN-CHECKER			DATE			SIGNATURE OF IN-CHECKER			
ITEM NO.	STOCK NO.	DESCRIPTION	CODE	UNIT	UNIT COST	QUANTITY TO BE SHIPPED	QUANTITY SHIPPED	QUANTITY RECEIVED	NO. OF CASES	UNITS PER CASE	CASE NOS.	CASE WEIGHT	CASE CUBE	CASE MEASUREMENTS
1A	CONFIDENTIAL	Sodium Borohydride (NaBH ₄), 98% pure	--	100lb. pgs. DR.	26.90/lb.	5	5		5	100 lbs	1-5	150	11.8	24x24x35
		FINAL SHIPMENT FV												
		Drum #1 thru 5 Yellow Label												

REMARKS		RUN #	SCALE	THEO.	UNCOR.	CORRECTED	% R ₂	TEMP (°F)		CATALYST	TOTAL TIME
								INITIAL	RISE		
CONFIDENTIAL EDGE TRY LOW ON WATER (10 gal) EXCESS WATER (10 gal)		1	1/10	350	287	258	74	53	52	0.91	65
		2	1/10	350	473	—	—	62	—	0.70	70
		3	1/5	718	855	686	95.5	62	63	1.37	85
		4	1/10	350	245	98	—	61	53	0.96	58
		5	1/5	628	698	579	95.5	54	46	1.61	150
		6	1/5	760	842	720	94.8	46	61	2.0	125
		7	1/5	760	937	744	97.8	64	74	1.83	70
		8	1/5	760	877	764	100	55	47	2.00	125
		9	1/5	—	686	—	97.9	66	46	1.67	64
		10	1/5	—	—	—	—	63	57	2.66	59

EXPLAIN: 7 vs 9 as: 7 has higher bar. concn & greater catalyst weight but longer time

9 vs 3 as: 9 has only 22% more catalyst but reduces time by 25%

2 vs 9 & 10 as:

$T_{02} = 62$	$C_{02} = 1.40$ (expec.)	$t_2 = 70$
$T_{09} = 66$	$9 = 1.67$ (+20%)	$t_9 = 64$ (-9%)
$T_{010} = 63$	$10 = 2.66$ (+70%)	$t_{10} = 59$ (-16%)

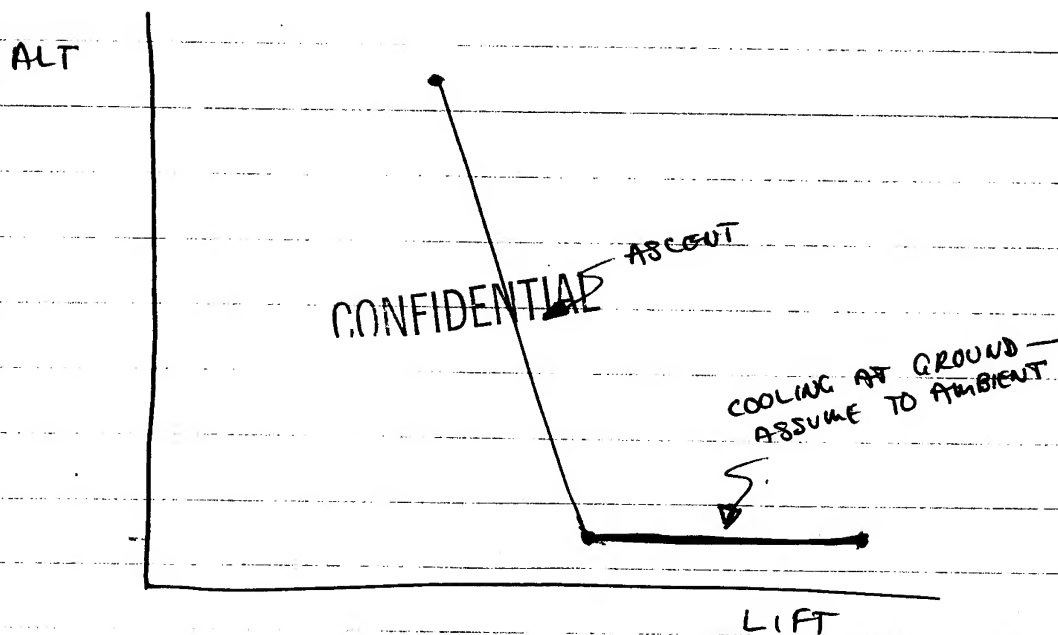
VARIATION IN TEMP RISE IN CATALYST ESP. 9 VS 10

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INITIAL LIFT (DUE TO H_2 , ~~HEATING~~ HEATING
& WATER VAPOR)

LOSS OF INITIAL LIFT (DUE TO COOLING
& CONDENSATION) —
UNDER LAUNCH CONDITIONS

FURTHER LOSS OF LIFT (DUE TO COOLING
& CONDENSATION DURING
ASCENT)



CENTRAL INTELLIGENCE AGENCY
 WASHINGTON 25, D.C.

RELATING TO THIS ORDER/CONTRACT NO.

99-17519

ISSUING OFFICE

REFERENCE (INVITATION OR REQUEST NO.)

DATE OF ORDER/CONTRACT

25X1

21/02/08/05/000

VERBAL QUOTE BY

23 APRIL 1959

AWARD, CONTRACT OR ACCEPTANCE NEG. CONTRACT

Your bid or proposal on the above numbered invitation for bids or request for proposals is hereby accepted as to the items enumerated below with the additions or changes made by you, which additions or changes are set forth in full below. This award or acceptance consummates the contract, which consists of the following documents, including any continuation sheets thereto: (A) the government's invitation for bids and your bid or the government's request for proposal and your proposal (B) the schedule (C) the general provisions and (D) the government's award or acceptance. No further contractual document is necessary.

IMPORTANT: If an X appears in this block: This contract will not be valid until on each copy enclosed, (1) the acceptance below is executed, (2) "Contractor Represents" below is completed and (3) the original and duplicate copy has been placed in the mail to contracting officer. The copy designated "Contractor Copy" is to be retained as your copy of the contract.

TO: (CONTRACTOR AND ADDRESS)

MAIL INVOICE TO:

CENTRAL INTELLIGENCE AGENCY
CHIEF, FISCAL DIVISION
WASHINGTON 25, D.C.

25X1

SHIP TO: (CONSIGNEE AND ADDRESS)

PROPERTY & SUPPLY OFFICER

DISCOUNT TERMS

DELIVERY F.O.B.

NET

DESTINATION

25X1

DATE(S) OF DELIVERY

OTHER (AS SPECIFIED IN SCHEDULE)

(IMPORTANT: MAKE EXGS. V/CONSIGNEE ADDRESS ONLY) 2 WEEKS

SCHEDULE

ITEM NO.	SUPPLIES OR SERVICES	UNIT	QUANTITY (NO. OF UNITS)	UNIT PRICE	AMOUNT
1	7 1111 999 9999: SODIUM BOROHYDRIDE F.O.B. ORIGIN SHIP PREPAID AND BILL AS A SEPARATE ITEM. ENCLOSE COPY OF RECEIPTED WAYBILL. NOTE: THE GOVERNMENT OF THE UNITED STATES HAS ROYALTY FREE LICENSE TO MAKE OR HAVE MADE THE INVENTION COVERED BY U.S. PATENT NO. 2534533. SODIUM BOROHYDRIDE PROCURED UNDER THIS CONTRACT SHALL BE MADE BY PRACTICING THE DISCLOSURES OF SAID PATENT. THE UNIT PRICE OF SAID BOROHYDRIDE SHALL EXCLUDE ANY CHARGE FOR ROYALTY. ATTACHED FORM NO. 1373, GENERAL PROVISIONS, IS MADE A PART HEREOF.	LB	120	32.90	3,948.00

ACCOUNTING CLASSIFICATION

TOTAL AMOUNT

3,948.00

 THE UNITED STATES OF AMERICA
 BY

CONTRACTING OFFICE

MEMORANDUM

25X1

CHARGE ALLOTMENT NO.

9 6896 10 000 08

CHARGE ACCOUNT NO.

9 2500 15 009

SUPPLY VOUCHER NO.

59-17519

REQUISITION NO.

TSS 913 27 1530 59

TO BE INSPECTED BY

UPON DELIVERY AT CONSIGNEE

OTHER AS SPECIFIED IN SCHEDULE

CERTIFICATE OF AWARD

WITHOUT ADVERTISING (IN ACCORDANCE WITH)

STATEMENT ATTACHED

TO NO. OF DEALERS BY ADVERTISING (SEE REF.)

NO. BIDS REC'D.

 AWARDED TO LOWEST BIDDER AS TO PRICE EXPENDITURE
☒ YES ☐ NO

THE ABOVE CONTRACTING OFFICER CERTIFIES THAT THE FOREGOING IS TRUE AND CORRECT; THAT ANY REQUIRED DETERMINATION AND FINDINGS IN CASE OF NEGOTIATION OR A STATEMENT OF REASONS IN CASE OF REJECTION OF LOW BIDS ARE ATTACHED; THAT THE SUPPLIES OR SERVICES COVERED BY THE AGREEMENT ARE NECESSARY FOR THE PUBLIC SERVICE AND THAT THE PRICES CHARGED ARE JUST AND REASONABLE.

DATE

SIGNATURE OF RECIPIENT

